



# IDAHO DEPARTMENT OF HEALTH & WELFARE

## Bureau of Community and Environmental Health

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### ARSENIC FACT SHEET

This fact sheet was prepared to assist individuals who live, work, or frequently spend time in areas that may have high levels of arsenic in soils, sediments or water. It is a guide to preventing or reducing your exposure to arsenic. This information is important because arsenic may cause harmful health effects, especially in children, the elderly, or those with existing health problems.

#### Environmental sources of arsenic

There are two forms of arsenic: inorganic and organic. Inorganic arsenic is an element commonly found in the environment as a mineral in certain types of rock. It is a human poison. Inorganic arsenic compounds are mainly used to preserve wood. They are also used to make insecticides and weed killers. You can check the labels of treated wood and insecticides to see if they contain arsenic. Inorganic arsenic is also found in cigarettes and fireworks.

Natural mineral deposits sometimes contain large quantities of inorganic arsenic. During mining operations, these minerals may be brought to the surface and concentrated in soils, tailings, and waste rock. Tailings and waste rock may cause arsenic contamination of the surrounding soil, groundwater and surface water. Organic arsenic is found in plants and animals. Fish and shellfish are sources of organic arsenic that are eaten by many people. It is usually less harmful than inorganic arsenic.

#### How does arsenic get into my body?

Arsenic can enter your body in several ways such as swallowing, breathing, or by skin contact with it. If you swallow arsenic in water, soil, or food, the arsenic quickly enters into your body. This is the most likely way for you to be exposed. Also, your home may become contaminated by arsenic-contaminated dust on your clothing or shoes. When you sweep or vacuum your floors or dust your furniture, you may breathe the arsenic-contaminated house dust. Small children, who play on the floor, may breathe the dust or get it into their mouths. If you breathe air that contains arsenic dusts, dust particles may settle onto the lining of the lungs. Most of the arsenic in these particles is then absorbed into the lungs and then your blood.

#### How can arsenic affect my health?

Many factors determine whether harmful health effects will occur, and what the type and degree of those health effects will be. These factors include the dose (how much), the duration (how long), the route (breathing, eating, drinking, or skin contact), and your individual characteristics (age, sex, family traits, etc.).

**Possible effects from short-term exposure (14 days or less):** Swallowing or breathing high levels of inorganic arsenic, may cause nausea, vomiting, and diarrhea; decreased production of red and white blood cells; abnormal heart rhythm; blood vessel damage; or a "pins and needles" sensation in hands and feet. Direct skin contact may cause redness and swelling. Arsenic damages many tissues including nerves, stomach, intestines, and skin.

**Possible effects from long-term exposure (1 year or more):** Swallowing, breathing, or having skin contact with inorganic arsenic may lead to a darkening of the skin and the appearance of small "corns" or "warts" on the palms of the hand or soles of the feet. However, all of these symptoms could be caused by conditions other than arsenic exposure.

## Can arsenic cause cancer?

The Department of Health and Human Services (DHHS) has determined that arsenic is a known cause of cancer. Breathing inorganic arsenic increases the risk of lung cancer. Swallowing or breathing inorganic arsenic increases your chances of developing skin cancer and tumors of the bladder, kidney, liver and lung.

## How can I prevent or reduce my exposure to arsenic in soil or dust?

If you live, work, or play in areas with arsenic-contaminated soils:

### INDOORS

- Remove shoes before entering your home to prevent tracking in contaminated dust or soil.
- Dogs and cats can carry contaminated soil on their feet and fur into homes. If possible, keep pets out of contaminated areas or outside the home. Bathe your pets frequently.
- Wash your hands after handling your pet, before preparing or eating food, and smoking. Wash your children's hands and faces after playing outdoors.
- Damp mop and dust frequently to reduce contact with arsenic-contaminated dust. Shampoo carpets with detergent and water. **Vacuuming with a regular household vacuum is not recommended because it stirs up dust in the home.**

### OUTDOORS

- Avoid all unnecessary exposure to contaminated soil, dust or water. Prevent children from playing in arsenic contaminated soils. Wash children's hands, faces, and clothes after playing in soil.
- Avoid eating, drinking, smoking, or chewing while in the contaminated area.
- If you must disturb the contaminated area, wear clean, full-body protective clothing (coveralls or long sleeve shirt and pants), shoes, and gloves. For maximum protection wear a dust mask or other respiratory protection. **Wash work clothes separately from other clothing.**
- Spray the contaminated soil with water to prevent dust before you disturb the area.
- Your car or truck may be contaminated with arsenic-contaminated dust. Damp dust the inside of the vehicle and shampoo the carpet with detergent and water.

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